

2014

State of Vermont

CLEAN ENERGY
DEVELOPMENT FUND

FISCAL YEAR 2014 ANNUAL PROGRAM PLAN & BUDGET

CEDF PROGRAMS AND ALLOCATION OF FUNDS FOR THE YEAR JULY 1, 2013 TO JUNE 30, 2014

PURPOSE OF THE ANNUAL PROGRAM PLAN and BUDGET

The purpose of the Annual Program Plan is to identify the initiatives and programs that the Clean Energy Development Fund (CEDF) will pursue during the year and to establish a fiscal year budget for the expenditure of CEDF funds.

The Annual Program Plan and associated budget represent the CEDF's attempt to meet the goals and approach described in the 2012 CEDF Strategic Plan with the funds expected to be available during the fiscal year.

MANAGEMENT & GOVERNANCE

Department of Public Service (PSD) Administration

In accordance with 30 V.S.A. § 8015, the CEDF shall be administered by the PSD. A Fund Manager hired by the PSD, as well as other PSD staff, manages day-to-day operation of the Fund.

The Clean Energy Development Board (Board) reviews and approves the CEDF Annual Plan, budget and program designs. As defined in 30 V.S.A § 8015, the Board consists of seven persons, three appointed by the Commissioner of Public Service and two each by the chairs of the Senate and House Committees on Natural Resources and Energy.

Clean Energy Development Fund Board

The current Board (and affiliations) consists of:

- Jo Bradley, (Vermont Economic Development Authority)
- Elizabeth Catlin, (Bluestone Wealth Management LLC)
- Alex Ibey, (Department of Economic, Housing and Community Development)
- Sam Swanson, (Pace Energy and Climate Center)
- Gaye Symington, (High Meadows Fund)

CEDF GOALS AND OBJECTIVES

Vision, Goal, Objectives & Strategies

To guide the CEDF over the next five years, the CEDF developed a five year strategic plan, published in January, 2013. The Plan was built to advance the founding purpose of the CEDF to promote the development and deployment of cost-effective and environmentally sustainable

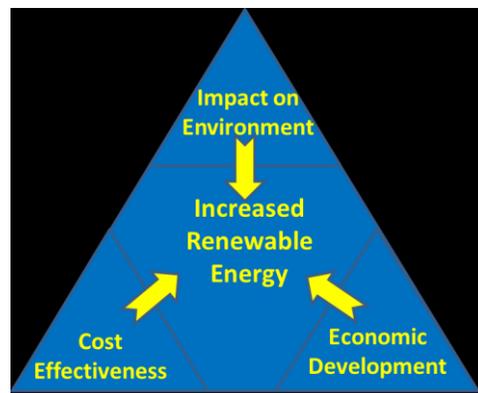


Figure 1.

electric power and thermal energy resources for the long-term benefit of Vermont consumers, primarily with respect to renewable energy resources.¹

CEDF's principal goal is to increase renewable energy generation while increasing cost effectiveness and economic development of clean energy (CE) and decreasing environmental impacts of the state's energy use. While the goal, objectives and strategies of the plan may be pursued independently, they are intended to be considered as a system, where the activities intended to fulfill one objective should also contribute towards fulfillment of others.

Vision

The vision for the CEDF is to serve the citizens of Vermont by increasing local small-scale renewable energy generation while maximizing associated economic development. The fund coordinates with other state programs and private entities to integrate and advance renewable energy across all sectors of the State's energy economy.

Goal and Objectives

Under the vision is the primary goal of **increased renewable energy generation** in Vermont (thermal and electrical). Supporting the primary goal are three objectives (Figure 1):

1. Advance Economic Development of the CE sector of the economy
2. Increase Cost Effectiveness of CE
3. Decrease Environmental Impacts of Vermont's Energy Use

Strategies

In pursuit of the primary goal and the three objectives the CEDF will focus on nine strategies:

- 1) Identify funding and deployment barriers to renewable energy development and coordinate with industry, state agencies, and private organizations to develop solutions that overcome those barriers
- 2) Strengthen and build the markets for select distributed RE technologies
- 3) Build connections between the deployment of renewable energy and energy efficiency
- 4) Increase jobs and revenue in the CE industry sector of the VT economy
- 5) Educate and support CE developers and businesses in obtaining other incentives and financing
- 6) Support and strengthen CE finance and investment-related activities
- 7) Increase the leverage of CEDF funds while helping to drive the costs of CE projects down
- 8) Focus support on those CE technologies and CEDF programs that maximize the reduction of VT's energy related carbon emissions
- 9) Continually evaluate programs, activities, and outcomes in order to adjust programs as necessary to meet goals

¹ 30 V.S.A. § 8015 (c)

FISCAL YEAR 2014 BUDGET

Revenue	FY '14 \$
Legislative Appropriation	1,324,286
Estimated CEDF Loan Repayments	325,000
FY 2013 Carry-forward	1,572,360
TOTAL REVENUE	3,221,646
Expenses	
Program	\$
Small-Scale Incentive Program	1,400,000
Clean Heat Community Challenge	555,000
Farm Energy Initiative - Digesters	350,000
Competitive Wind Grants RFP	250,000
Competitive Community Solar Grants	250,000
RE Industry Baseline Analysis	150,000
Program Evaluation	100,000
Power Storage Project	50,000
Community/School Solar Model Contract	30,000
Administration	65,000
TOTAL EXPENSES	3,200,000

ARRA Funds

Available ARRA Revolving Loan Funds	1,117,538
Estimated Additional Loan Funds Made Available During the FY	160,000
TOTAL AVAILABLE	1,277,538

ARRA FUND ALLOCATIONS

VEDA Clean Energy Loan Fund - Loss Reserve	500,000
Renewable Heating Credit Enhancements	500,000
Residential RE Credit Enhancements	240,000
TOTAL ALLOCATIONS	1,240,000

FISCAL YEAR 2014 ANNUAL PROGRAM PLAN

Existing Programs:

Small Scale Renewable Energy Incentive (SSREI) Program

The SSREI Program has been a proven mechanism to grow the residential and small commercial markets for mature small-scale CE technologies in the most widely distributed and accessible way possible. The program's advantages are that it is market based, cost effective, highly leveraged, and simple, and access to the funds is open and transparent.

The CEDF will continue to make adjustments to the program design and administration based on market developments. CEDF believes the level of incentive provided as of October 1st will enable the program to last the current fiscal year. In the spring the PSD and CEDF will reevaluate whether funding levels and program evaluation results support continuation of the incentives. To ensure funding for solar hot water systems \$250,000 of the SSREIP budget will be reserved exclusively for solar hot water incentives.

The Vermont Small-Scale Renewable Energy Incentive Program is currently administrated by the Renewable Energy Resource Center (www.nerc-vt.org). A new competitive solicitation for program administration will be issued before changes to the program take place.

Program Evaluation

The CEDF Strategic Plan includes a sustained commitment to program evaluation. The CEDF has regularly tracked and reported how the CEDF resources have been used and what have been the resulting accomplishments, including the number and types of projects that have been funded, the renewable energy capacity that has been constructed, the estimated clean energy output from these new projects, and the environmental benefits these projects would provide.

However, while these reports effectively track progress made toward the increasing the deployment of renewable energy capacity in Vermont, a more comprehensive assessment of program effectiveness including a continuous learning cycle consisting of planning, action and reflection based on data gleaned from funded activities will enable program managers to improve program performance and will communicate to all Vermonters the progress that the program is making.

Accordingly, the CEDF will dedicate staff and other program resources to measuring progress toward the CEDF goal and objectives, identifying barriers facing the programs, and revealing program delivery problems. Based on the data collected the CEDF staff will recommend action to overcome barriers, to address problems and to improve overall CEDF program performance. The successful conduct of this monitoring and

evaluation should produce benefits in program productivity that far exceed the costs. These monitoring and evaluation efforts will assess the:

- contribution the CEDF programs are making to deploying renewable energy in Vermont
- progress being made toward CEDF objectives
- cost-effectiveness of the CEDF program investments
- effectiveness of the CEDF program implementation processes
- on-going performance of funded projects

New Programs:

Clean Heat Community Challenge Program:

The CEDF Strategic Plan and the State's Comprehensive Energy Plan call for an increased focus on thermal energy efficiency and generation. The CEDF does not have the sufficient funding to make all of the necessary progress on its own. Rather, the CEDF needs to maximize its collaboration with other entities in order to achieve the necessary impact.

The Clean Heat Community Challenge (CHCC) program will be part of a collaborative effort to model high penetration of thermal efficiency and renewable heat measures in a selected community (or, if possible, communities). The community will be selected through a competitive process. The CEDF will team-up with the selected town, other state agencies, companies and non-profit organizations. The CHCC will include an outreach and education effort combined with Efficiency Vermont incentives, existing weatherization services, CEDF incentives, and programs offered by other organizations and/or the electric utility serving the community. Other clean energy efforts could also be targeted such as EV charging stations and solar systems (PV and Thermal). Funds could also go to help create standards and guidelines, monitoring, and evaluation for heating with ground-source and air to air heat pumps.

The CHCC will focus on providing incentives for the installation of biomass heating systems in the selected town. The emphasis for the biomass heating would be on commercial-sized systems and on systems heating more than one building (district heating). This program will build on lessons learned from the "solarize" model, which has been successfully used to promote solar in targeted communities, and the Northern Forest Center's Model Neighborhood Project which works to establish clusters of biomass heating to lower costs.

Farm Energy Program:

Similar to the CHCC program, the Farm Energy Program will leverage parallel efforts by collaborating with others. The primary partner will be the Agency of Agriculture, Food

and Markets, but the CEDF would also work with the Agency of Natural Resources, Green Mountain Power's Cow Power program, non-profit groups, and financial entities.

The Farm Energy Program for FY 2014 will focus on manure and agricultural waste digesters with an emphasis on driving down costs for smaller systems in order to make the technology increasingly feasible for smaller farms. Any incentives will be made through competitive grant solicitations.

The program will include a specific solicitation to create a demonstration project of a food waste digester co-located at a dairy farm with an operating manure digester and adequately sized generator. The methane from the food waste digester could be fed into the existing manure digester's generator to produce additional heat and power. The CEDF believes such systems could have great potential to divert food waste organics from landfills (as required by Act 148) into renewable energy co-generation plants while also helping the profitability of farms.

Competitive Wind Grant Program:

Instead of providing incentives for wind power through the SSREIP, wind projects of up to 100kW will apply for incentives through a competitive process. Overall performance of wind turbines in the SSREIP program is under review, but preliminary evidence indicates that performance has been less than anticipated (due to factors such as overly optimistic wind speed projections and technology limitations) and administrative costs of the performance based incentive have been high in comparison to incentives for other technologies.

The focus of the Wind Grant Program will be on community-scale turbines that can maximize power production and advancement towards the CEDF goal of increased economic development.

In this program the CEDF would have the control to ensure that incentivized turbines are being installed at sites with a good wind resource and where there is strong community support for – and potentially ownership of – the turbine. In addition, the program will look to benefit schools, nonprofits, and municipalities.

Competitive Community Solar Grant Program:

The CEDF received significant comments on the desirability of community energy projects and particularly regarding community solar projects. The CEDF's strategic plan highlights community energy as an area of interest. A competitive grant program will allow the CEDF to support community ownership or participation (by the town and/or community residents) in local solar projects. The criteria for being selected for a community solar grant will be developed with stakeholder and CED Board input, but will likely include strong community support and a percentage of the project's capacity being owned or leased to public serving institutions and non-profits of the community.

Power Storage Program:

The Public Service Department (PSD) learned on June 27, 2013, following a U.S. Department of Energy (DOE)-Vermont meeting about energy storage, that DOE is prepared to potentially commit federal funds to, at the least, match state funds when leveraging private funding of 50% or more to deploy an electricity storage project in Vermont. Several Vermont utilities have already put forward concrete ideas for near-term projects to integrate renewables. Dr. Imre Gyuk, who heads DOE's Energy Storage program, emphasized the importance of a state contribution to enabling his program's funding to be targeted in Vermont.

This program will allocate funds through a competitive solicitation process, most likely starting with a Request for Information, used to gather additional details about the range of possible storage projects in order to help narrow the field to one that will best, for example: deploy storage to address a renewable integration challenge; evaluate stacked storage value streams that make storage economical in a VT-specific context; provide demonstration and learning opportunities to the State, utilities, and partners; forge a pathway toward regulatory understanding of permitting storage projects; and leverage involvement of multiple partners. The sooner the State and its partners can deploy meaningful storage projects, the better we will be able to understand its value, applications, and how to best deploy it to maximize utilization of renewable energy and lower the barriers to the high levels of renewable energy penetration that will be required to reach the State's clean energy goals.

Vermont Renewable Energy Industry Baseline Analysis:

Modeled on the work done in other states (most notably MA), this will be a three-year effort to research, analyze, and document the size, scope, and impact of the clean energy industry in Vermont. The CEDF will work collaboratively with the Agency of Commerce and Community Development and others, possibly including Castleton State College's Polling Institute. The analysis will provide a survey framework and baseline data that can be used in the future to gauge the effectiveness of state clean energy policies and incentives on growing this sector of the economy.

Model Contracts for Communities:

The CEDF will work with entities such as the Vermont Superintendents Association, Vermont School Boards Association, Vermont League of Cities and Towns, Vermont Energy & Climate Action Network, and others to create model contract/PPA/Lease agreement(s) and supporting documents for schools & towns that are interested leasing or buying renewable energy systems, or in power purchase agreements for renewable energy, whether the systems are to be located on or off town/school property.

American Recovery and Reinvestment Act (ARRA) Funds

The CEDF created a \$3.8 million revolving loan fund with ARRA funds in 2010. Over \$1 million of the funds loaned out have been repaid and are available in the revolving loan fund. The CEDF closed the loan program to new loans in 2012 while working on the strategic plan and the re-evaluation of all CEDF programs. The CEDF determined that the greatest benefit of these ARRA funds would be to leverage other financial products being offered and not through direct loans. There is not a shortage of available debt to finance clean energy projects and a separate CEDF loan program will not generate an adequate level of development in the financial markets.

Instead of providing direct loans the CEDF will use the returned ARRA loan funds for credit enhancements that will provide the best leverage of other funds support for the development of the clean energy finance market in Vermont.

The CEDF will work with the Vermont Economic Development Authority (VEDA) to provide credit enhancement support for the Commercial Energy Conservation Loan Program as well as VEDA's clean energy loan program, with an emphasis on renewable energy heating projects.

The CEDF will also make available approximately \$240,000, through a competitive process, to a Vermont financial institution to support (primarily through credit enhancement) the creation of a new residential loan product for clean energy investments.

Continuing Activities as Part of the Public Service Department:

❖ Coordinating Role on State Clean Energy

The CEDF will continue its collaborative work with other state agencies and entities in all programs. However, the CEDF will seek a more active coordinating role regarding the state clean energy goals described in the Comprehensive Energy Plan. The CEDF will build upon its current role as a virtual clearinghouse in state government where many turn for information about current policies and funding options. By doing so, the CEDF can also strengthen relationships to help generate broader economic development outcomes such as job growth, increased revenue and clean energy cluster advancement to benefit Vermont.